

KNOWLEDGE MANAGEMENT AND PROCESS
EXCELLENCE WITHIN
BIRMINGHAM EAST AND NORTH PRIMARY CARE TRUST

Process Excellence Creates Value for Patients

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1. Introduction

The establishment of best practice Knowledge Management (KM) within Birmingham East and North Primary Care Trust (BENPCT) cannot be achieved in isolation. Knowledge Management must be considered in the context of all other on-going and planned projects and activities. Since, it is likely that many current projects will need to be synchronised with the changes that the new Knowledge Management approach will introduce. This paper aims to provide a brief background of Knowledge Management practices and to outline which key considerations contextualise the Knowledge Management approach within BENPCT.

Knowledge Groundwork

Between June 2007 and April 2008, Julian Simcox (Cohear.com LTD) worked with the Trust Board and various senior managers to lay down the foundations of a process excellence culture within Birmingham East and North Primary Care Trust (BENPCT). This paper further describes how the Process Management function in BENPCT will build on that foundation to introduce process excellence into BENPCT's organisation. The goal of the Process Management function is to add value to patients' experience of BENPCT's services in the following manner:-

- Assimilate, re-use and propagate best practices where they already exist
- Create and maintain a structured library of core operational and clinical processes
- Evaluate / re-design existing processes, and create new processes that support and take forward the Trust's strategic objectives and operational targets
- Delete redundant processes
- Put in place a simple, clear means of measuring process performance and of identifying process failures & their impact
- Educate the staff within the Trust so that they become process aware and more confident about operating processes and addressing process issues as part of their day to day responsibilities
- Establishing a clear linkage between process, people development and technology so that changes undertaken will be rapid, forceful and permanent
- Give high priority to the processes that directly impact patients, clinicians, front line services and take forward BENPCT's strategic objectives.

The Intelligent Board

In February 2006, Dr. Foster Intelligence and the Health and Social Care Information Centre produced a paper outlining joint research on the information challenges facing today's Trust boards¹. The research concluded that "... many NHS organisations have a long way to go if they are to live up to the challenge of intelligent information that supports and enables effective governance ..." Good governance relies on intelligent information, and yet a frequent complaint is that Directors [and senior managers] suffer from massive information overload.

This paper addresses this specific information challenge from the Trust's perspective and describes how a new approach to Knowledge and Process Management will address the hierarchy of information needs throughout the organisation. The paper also illustrates how

¹ View on line at: <http://www.networks.nhs.uk/networks.php?pid=290>

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the Board will be able to focus on the application of healthcare intelligence to strategic decision making using an intelligence based, high level scorecard.

Too Much Information

The NHS is awash with metrics and targets. This can be a problem if information is not properly managed and structured. Staff can perceive that the receiving and passing on of information becomes an end in itself (“feeding the beast”), rather than being the control levers of performance management and decision making.

2. Knowledge Management for BEN PCT

A Brief History of Knowledge Management in Business

Over the past 10 years, the views on best practice Knowledge Management have shifted dramatically. Early Knowledge Management practices and systems were developed around centralised, highly controlled information sources, supported by clearly defined “expert” roles such as authors, editors, developers and subject matter experts. This system centric approach was supported by large scale knowledge sharing systems such as Lotus Notes, and required a massive organisational and cultural undertaking if it were to work effectively. More recently, Knowledge Management best practice has mirrored internet based phenomena such as mySpace, Facebook, BEBO, blogging and WIKIs. Knowledge creation is seen as a more democratic process, no longer the preserve of faceless experts.

Therefore, in a best practice knowledge-enabled organisation you will find a core set of centrally managed data, combined with a high degree of user generated content flowing freely between user communities and specialist teams. As with the best Knowledge Management organisations, BENPCT will have the opportunity to generate intelligence from raw information and use it to create patient value.

For an organisation that has major objectives of commissioning world class services for its patients, and of attaining high levels of engagement with its community, knowledge management is critical to strategic success.

The development of best practice Knowledge Management in BEN PCT will undoubtedly facilitate:-

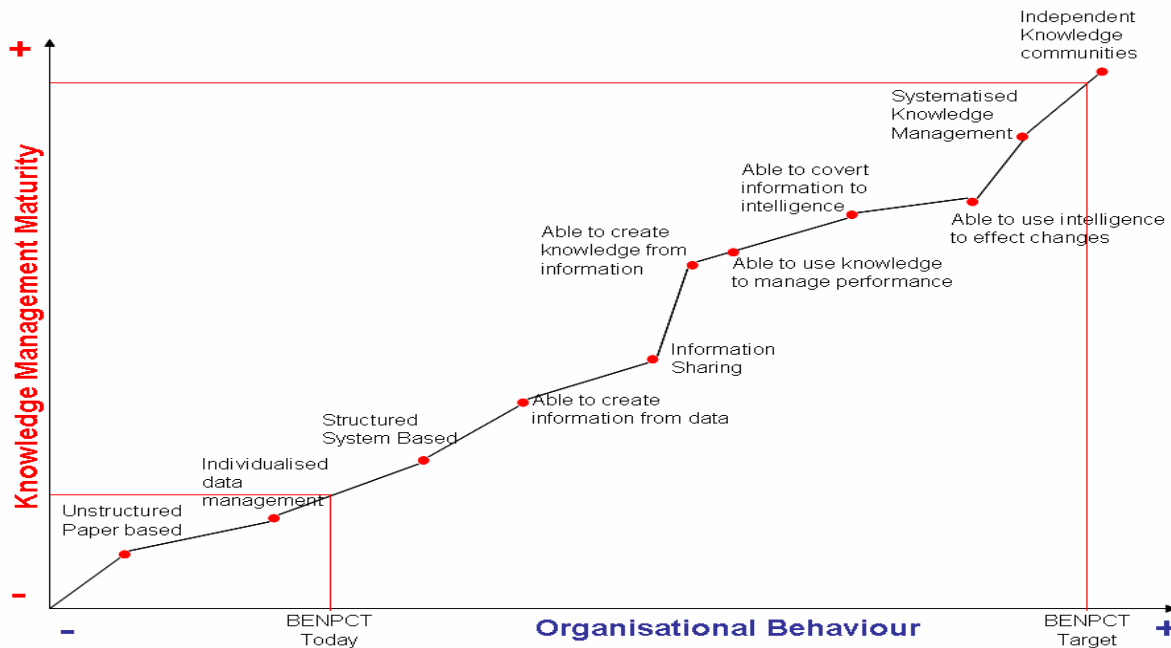
- consistency of service delivery
- elimination of waste and delay
- speedier and more informed innovation
- intelligence lead decision making
- improved performance management
- creation of effective communication channels between stakeholders (patient, clinicians, healthcare managers, delivery partners)

However, it is very important to recognise from the outset that implementation of Knowledge Management is a journey. A great deal of attention needs to be placed on understanding the starting point of the journey, because it will differ according to the organisation’s current disposition and long term Knowledge Management goals.

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Figure 1 – The Knowledge Management Journey



As figure 1 illustrates, the most advanced organizations have evolved to the point where employees regard themselves as members of professional, knowledge-sharing communities, creating and consuming knowledge as part of their regular work practices, with a large emphasis on re-use and sharing.

3 Starting Point for BEN PCT

The immediate starting point is to “sow the seeds” that will grow into the necessary components of a world class Knowledge Management organization. These are:-

- increased awareness of process rigour
- instilment of basic understanding of information management (e.g. what is information and how is value derived from it)
- rudimentary change control of documents and information sources
- basic tools and systems to encourage knowledge sharing

Some early observations of Knowledge Management practices:-

Observation	Evidence	Potential Need
Knowledge Management is unstructured and informal	Every person to whom the question was posed expressed a belief that a more structured approach to Knowledge Management would be useful to him / her	Training on basic Knowledge Management principles
Key items of information can often be individually	A true example: Significant volumes of information	Structured programme / project library hosted on a

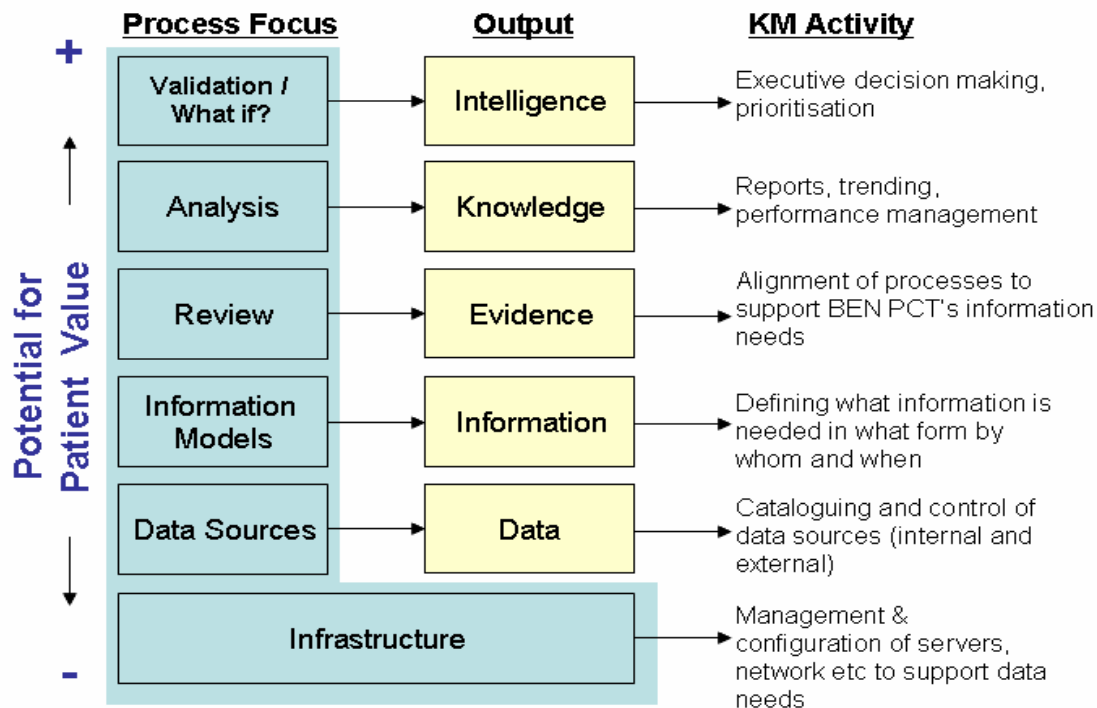
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Observation	Evidence	Potential Need
managed, and even paper based (which makes it harder to share and control)	related to a specific project are kept by a single PA	shared platform
There are no purpose-made Knowledge Management tools and as a result BEN PCT personnel do not have an easy way to store, search and retrieve information	Trust-wide guidelines on storage policy for documents and data are neither in use nor visible – and are certainly not encoded into the systems	Review need for a range of best in class Knowledge Management tools
There is an in-balance between the “pushing” and “pulling” of information - PCT staff need to develop the habit of “knowing where to look” for key information	An unusually large amount of information is paper – based. Usage of centralised information repositories is low and static (cyclic)	Better usage of electronic formats & file-sharing; creation of dynamic data sources so information can be more up-to-date

The Information Hierarchy model below illustrates the type of structure that needs to be established in order to build a robust Knowledge Management framework. In summary, this approach will start from the basic infrastructure and build upwards through the layers so that BEN PCT has a well founded capacity to generate healthcare intelligence for executive decision making and prioritisation.

Figure 2 – Information Hierarchy



Critically, the information hierarchy is also the means through which the Trust's Board will be empowered to become an intelligence lead, strategic body. The framework will ensure

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that the Trust's raw data is refined as a natural bi-product of process operation. Consequently, the right information will be directed to the right teams whose process management skills will in turn ensure that information becomes more valuable as it moves through the organisation.

The Board will receive intelligence via a tailored scorecard that has been filtered at every stage of the hierarchy, and presented in terms of potential decisions for their consideration. Conversely, the scorecard will allow the Board to interrogate specific areas of business and where required drill down into matters of concern or interest, all the time maintaining a focused perspective through the information structure.

4 Long Term Knowledge Management Goals

BEN PCT's long term Knowledge Manage goals must land somewhere between centralized, highly structured Knowledge Management and the creation of independent, knowledge communities who create and share knowledge.

There is a unique opportunity for BEN PCT and the other Primary Care Trusts, in that they already have a large amount of data and information circulating between itself and many different parts of the NHS. The long term goal must therefore be to structure this information in such a way that it can be used to create business intelligence to drive decision making, ultimately reflecting in measurable improvements in patient care.

To this end, the following long term goals are proposed for BEN PCT's Knowledge Management approach:-

- Implementation of a world class Knowledge Management tool (to work in conjunction with a re-vamped intranet).
- Implementation of world class search capability which again will be used in conjunction with the intranet to provide signage for the Trust's information users
- Documentation management and security standards to be defined for all important information so that:-
 - Information is stored on the Knowledge Management tool with predefined taxonomy and usage rules (e.g. confidential, private, etc.)
 - Appropriate security standards and access controls applied to sensitive data and healthcare intelligence
- Creation of a Knowledge Management function to manage the information and work with the different teams including the Board to define ways of generating healthcare intelligence and patient value
- Informal information management tools – we want to encourage the use of informal information channels such as chat rooms and bulletin boards. Informal information can evolve into very powerful organisational knowledge by facilitating the flow of new ideas and creating a platform for problem solving

5. Process Management in BEN PCT

Measuring Process Management Success in BENPCT

We will use a Balanced Scorecard reporting method to reflect the inter-relationship between the following four aspects of BENPCT process performance:-

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- Financial Performance
- Stakeholder Impact (with a specific focus on patient experience and front line primary care services)
- Operational Performance
- Innovation (ability to introduce changes efficiently)

The picture below illustrates the format of the scorecard that will be used for measuring process improvement, including examples of the sub metrics that will support the KPIs.

Figure 3a – Balanced Scorecard

Financial Performance							Stakeholder Engagement						
	Value	Overall	Detail	Trend	+ / -	3mo		Value	Overall	Detail	Trend	+ / -	3mo
1.1 Cost per patient	97%	G	R	↑	0.62%	●●●	2.1 Patient engagement	3.90	Y	Y	↑	0.02	●●●
1.2	\$ 2,698	G	Y	↑	\$17.03	●●●	2.2 Partnership feedback	3.39	Y	Y	↓	-0.54	●●●
1.3	95%	G	R	↑	15.84%	●●●	2.3	3.84	G	Y	↑	0.08	●●●
1.4	159%	G	G	↑	0.01%	●●●	2.4	3.64	Y	Y	↑	0.06	●●●
1.5	\$ 52,375	G	R	↔	\$0.63	●●●	2.5	3.89	G	Y	↑	0.04	●●●
1.6							2.6	3.81	G	Y	↓	-0.02	●●●

Operational Performance							Innovation				
	Value	Overall	Detail	Trend	+ / -	3mo		Value	Target	% Variance	Trend
3.1 Vital Signs	65.71%	G	R	↑	1.08%	●●●	4.1 Key project status	124,877	114,728	8%	↑
3.2 Key operational metrics	0.80%	G	G	↓	-0.20%	●●●	4.2 Core process status	99,177	96,136	3%	↔
3.3	99.99%	G	G	↔	0.00%	●●●	4.3 WCC	171,932	167,567	3%	↑
3.4	99.18%	G	R	↑	-0.31%	●●●	4.4	81,094	79,654	2%	↓
3.5	99.77%	G	G	↓	-0.12%	●●●	4.5	604	771	-28%	↔
3.6	98.95%	G	Y	↑	0.19%	●●●	4.6	1,615	-	100%	↓

NB: The implementation of the Knowledge Management project will be tracked under the innovation quadrant under process improvement and / or project management.

Why Use a Balanced Scorecard?

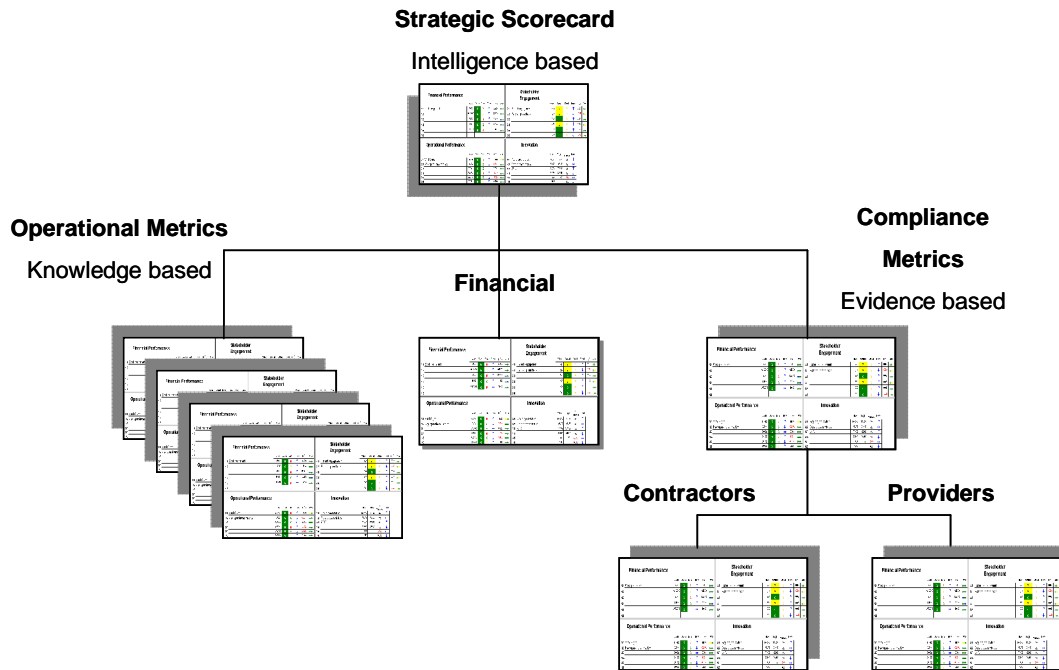
A balanced scorecard approach ensures the following:-

- Process Excellence KPIs are measured in all 4 dimensions and the Directors will be able to control and manage the necessary trade-offs between the many activities that will compete for the Trust's limited resources
- The risk of "false readings" is minimised by measuring success from different angles
- A balanced scorecard lends itself to a hierarchical structure and facilitates the refinement and upwards filtration of information to the Board

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Figure 3b – Measurement within the Information Hierarchy



In fact, it is entirely necessary that the scorecard be deployed within the information hierarchy described earlier in chapter 3. The schematic above shows a theoretical (but realistic) view of how the scorecard approach will work.

6. Two Keys to the PM Gold Standard

The attainment of the gold standard (Process Excellence²) is not just a simple matter of trying to improve individual processes. Within the context of the BENPCT organisation, there are 2 significant considerations which will need to be addressed in order to deliver sustained improvements in process performance. The importance of these 2 key considerations cannot be overstated. That is:-

- (a) Process management activity must be fully integrated with systems (technology) and people development

and

- (b) Process improvement must be regarded as **one** component of the overall Process Management model. A well defined process must have a range of components present, not least the capacity to self improve which has to be built in from the outset in terms of measurability and controls.

² Process Excellence for Birmingham East and North Primary Care Trust will be defined in detail during the PM work

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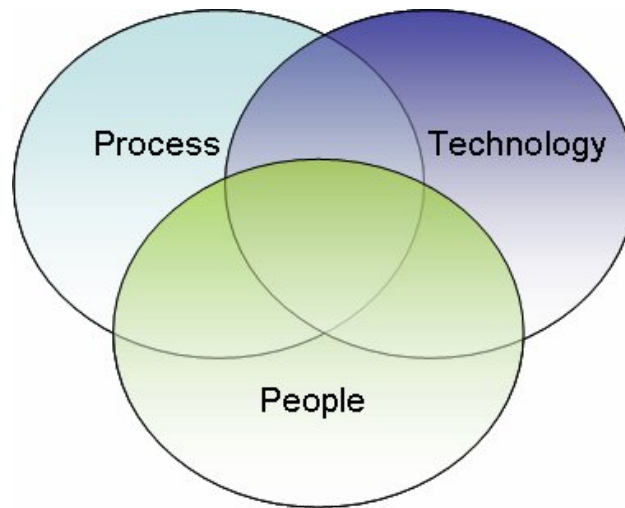
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An Integrated Approach to Process Management

Successful process management occurs when the organization's processes are fully integrated with:-

- (a) the people who use and operate them, and
- (b) the technology on which the process depends.

Figure 4 – The Integrated Operation Model



It is critical to note that most fundamental process changes require actions to be taken in all 3 domains.

A Comprehensive Approach to Process Management

Beginning from the top and working down, every single person in BENPCT will need to start thinking “**Process Management**” as opposed to “**Process Improvement**”.

While I propose the process improvement effort in BENPCT will necessarily have a strong focus on improvement, a more comprehensive approach would require the following process stages to be addressed with equal priority over time:-

- Process operation
- Performance measurement
- Continuous improvement
- Benefits tracking
- Strategic Direction / Alignment
- Financial Management
- Benchmarking
- Process Economics

In the short term, the Process Management team will address the first four stages on the above list (see also figure 5 below).

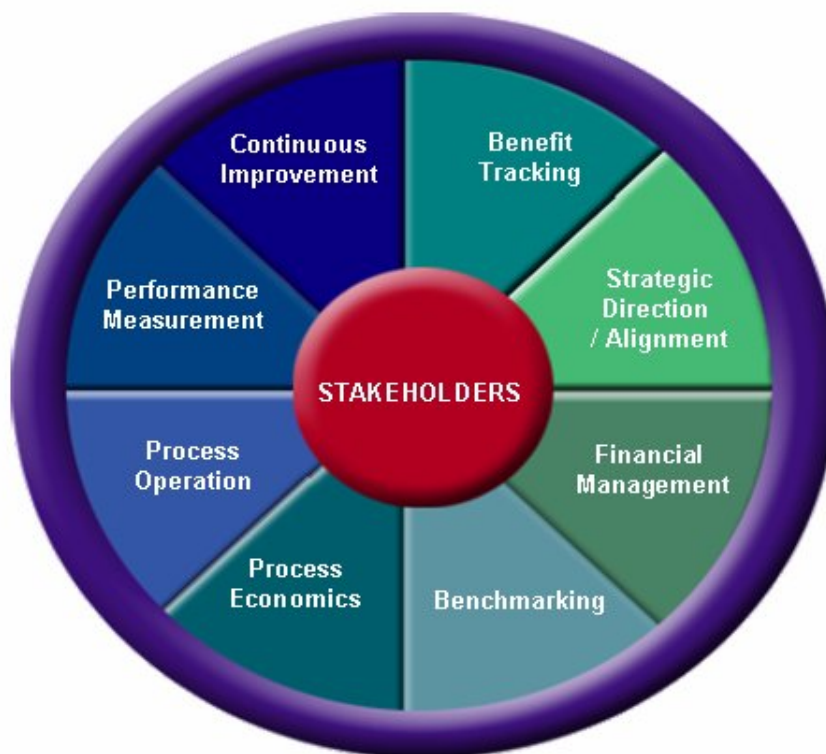
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In the medium to long run, the team will address the issue of alignment of processes with BENPCT's strategic direction as well as financial management (i.e. awareness of cost implications in process operations)

Also of great importance to the long term sustainability of improved process management is benchmarking (i.e. comparing our performance to the best in class wherever we can) and also a better understanding of process economics (i.e. understanding the impact of factors such as organisational growth or transaction volume on process effectiveness; and developing the ability to scale processes up and down without losing benefits)

Figure 5 – Stages of Process Management



7. Knowledge and Process Quick Wins

As previously mentioned the Process Management approach is highly linked to the Knowledge management approach. The implementation timeline in section 9 illustrates how the programmes will run relative to each other. The proposal is to conduct the Phase 1 Process Management and the Phase 2 Knowledge Management programmes concurrently to gain maximum impact from the following quick wins:-

- Generate a comprehensive list of ALL current activities, projects and initiatives (including WCC activities)
- Prioritize the list with the Directors and confirm alignment with Birmingham East and North Primary Care Trust's strategic objectives, then identify common processes driving the key initiatives

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- Complete an audit of Birmingham East and North Primary Care Trust's core processes and cross reference against prioritised activity list
- Perform a detailed infrastructure review to ascertain to what extent the IT infrastructure currently supports a KM infrastructure, and identify the immediate factors that need to be addressed. This work will include a specific review (and re-design if required) of the network file sharing topology ("U:", "S:", "W:", "X:" drives) with a view to improving the storage of shared documents
- Audit of systems, applications and processes to identify and catalogue key items of information and their data sources (data modelling)
- Communication / training programme (targeted and general) to increase the awareness of relevant Knowledge Management theories and practices. Start by identifying "Champions" from the operational and clinical teams
- Design and run a Champions Event, with the full participation of Board members (this will show that the Board are leading the way to process excellence)
- Finally, a Phase 1 review session will determine the specific content and prioritisation of phase 2, which will be a combination of Knowledge Management and Process Excellence work that also will interlink with the appropriate PRIME work-streams
- Creation of a "Knowledge Bank" with a deposit and withdrawal process. In the short term this can be either a folder system on the shared drives or better still a page on the BEN PCT intranet site. Using this system BEN PCT personnel can get "points" for both withdrawing and depositing information, and a league table ("Knowledge Bank "Statement") can be published to highlight and reward good practice

8. Summary and Conclusions

BEN PCT has a long way to go towards achieving Knowledge Management excellence, however, it has a massively underexploited potential to organise and structure its information.

Knowledge Management and Process Management are inextricably linked for BEN, and the IT infrastructure is the track upon which the KM and PM trains must run. Urgent work is required to review, stabilise and optimise the infrastructure so that the process development will have strong foundations.

A philosophy of "the right information to the right place at the right time" needs to be adopted by all to create a sense of direction around Knowledge Management and Process Improvement. This means:

- intelligence to the Board for strategising and directions setting;
- knowledge to the senior managers for performance management;
- data to be aligned with projects and programmes

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The low hanging fruit have been identified and outlined in this paper, and work has commenced. Progress will be greatly improved if we all start by recognising (and rewarding) good practice within the Trust where it already exists.

9. Summary of Work

Short Term Tasks and Quick Wins

ID	Task	Owner	Start Date	End Date	Comments
	Document and prioritise all major activities (align with and assess against the Trust's core purpose / strategic goals)	Sam German	30 June 2008	11 August 2008	Activity started – as at 24 July approximately 150 projects documented
2	Align activities with BEN's core goals and assess priorities	Sam German	14 July 2008	11 August 2008	Initial classification commenced – detailed work to be undertaken with appropriate senior managers and Directors
3	Assess & identify knowledge management themes and needs across projects	Sam German	21 July 2008	25 August 2008	This activity will create the Trust's KM requirements framework
4	Conduct review of infrastructure	Sam German	28 July 2008	1 September 2008	This activity will contribute to the Trust's KM requirements
5	Review and document KM data sources and create key data models	Sam German	30 July 2008	13 October 2008	This activity will contribute to the Trust's KM requirements in terms of information management
6	Document and classify core processes	Sam German	28 July 2008	15 September 2008	This activity will contribute the Trust's KM requirements
7	Communications - Identify and brief Knowledge Management champions and conduct Champions Event	Sam German	4 August 2008	1 September 2008	KM Champions will establish early engagement of key BEN personnel
8	Audit & documentation of core business systems	Sam German	11 August 2008	8 September 2008	This activity will contribute the Trust's KM requirements
9	Establish and launch on-going KM communication programme	Sam German	6 October 2008	On-going	This activity will seek to engage staff already involved in KM / PM best practice
10	Establish "Knowledge Bank" – central information repository, marketed at key contributors	Sam German	15 September 2008	3 November 2008	The Knowledge Bank will provide an initial facility for storing information – the platform is not important at this stage, but we must be able to easily migrate from it in near future
11	Conduct review of KM / PM Phase 1	Sam German	27 October 2008	3 November 2008	This review will determine the specific scope and timescales for Phase 2 and longer term activities

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Long Term Tasks

ID	Task	Owner	Start Date	End Date	Comments
1	Create a KM architecture plan and roadmap detailing the journey over the next 5-7 years in terms of infrastructure, systems and other required investments	Sam German	TBC	TBC	Start and end dates will be determined at the Phase review in October 2008
2	Within the framework of the KM roadmap, procure and implement a world class Knowledge Management toolset	Sam German	TBC	TBC	Start and end dates will be determined at the Phase review in October 2008
3	Procure and implement a best in class Search engine	Sam German	TBC	TBC	Start and end dates will be determined at the Phase review in October 2008
4	Establish an informal information exchange forum	Sam German	TBC	TBC	Start and end dates will be determined at the Phase review in October 2008
5	Establish a KM/PM team (based on the integrated business model i.e. build / buy-in expertise in process, system and people development)	Sam German	TBC	TBC	Start and end dates will be determined at the Phase review in October 2008

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High Level Implementation Timeline

